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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,498	09/27/2001	Steven D. Edelson	36719-174833	8851

26694 7590 10/21/2004

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EXAMINER	
HENN, TIMOTHY J	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/963,498	EDELSON ET AL.	
	Examiner	Art Unit	
	Timothy J Henn	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-19* is/are allowed.

6)☒ Claim(s) *1-8 and 10* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/25/02, 12/19/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizuno (US 6,370,315).

[claim 1]

In regard to claim 1, Mizuno discloses a method for correcting a video for undesirable camera motion rate comprising detecting the existence of an undesirable camera motion rate represented in a first sequence of video frames comprising a motion picture (Figure 3; c. 12, ll. 9-34), and retiming frames of said first sequence of video frames in accordance with a desirable camera motion rate to produce a retimed sequence of frames (Figure 7; c. 15, ll. 12-65). The examiner notes that in Mizuno, an undesirable motion rate can be defined for the compression process as motion between frames which does not include motion above a threshold. In this case, video without any motion is "undesirable" when reducing the amount of time a program takes to play is a priority. Mizuno then retimes the frames the frames of the video "in accordance with a desirable camera motion rate" by removing only those frames which meet the

criteria of being a "manipulation frame" (i.e. a frame with little to no motion).

[claim 2]

In regard to claim 2, Mizuno discloses a method wherein the undesirable camera motion is detected by detecting the rate of camera motion from said first sequence of video frames (Figure 3; c. 12, ll. 9-34).

[claim 6]

In regard to claim 6, Mizuno discloses a method further comprising determining the presence of a soundtrack in said motion picture and resynchronizing said soundtrack with the timing of the frames in said retimed sequences (e.g. c. 12, ll. 9-34; c. 15, ll. 23-37).

[claim 7]

In regard to claim 7, Mizuno discloses detecting a motion rate of the camera. The examiner notes that any panning, tilting or zooming of the camera will lead to a detected "camera motion rate". Therefore, it is noted that any motion, including panning will be detected by Mizuno during the determination of manipulation frames.

[claim 8]

In regard to claim 8, Mizuno discloses detecting a motion rate of the camera. The examiner notes that any panning, tilting or zooming of the camera will lead to a detected "camera motion rate". Therefore, it is noted that any motion, including zooming will be detected by Mizuno during the determination of manipulation frames.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6,370,315).

[claim 3]

In regard to claim 3, Mizuno discloses detecting of camera motion, but does not disclose the use of dense motion vector fields. Official Notice is taken that the use of dense motion vector fields are well known in the art for determining motion between frames of video. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use dense motion vector fields to determine the motion in the video sequences of Mizuno as claimed.

5. Claims 4, 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (US 6,370,315) in view of Cornog et al. (US 6,665,450).

[claim 4]

In regard to claim 4, Mizuno discloses retiming a sequence of video by repeating "manipulation frames" when appropriate (Figure 7). However Cornog discloses that that simply repeating frames can produce "unwanted visible artifacts such as jerky motion" (c. 1, ll. 7-27) and proposes a solution of using motion compensated interpolation to produce new frames which do not suffer from this problem (c. 4, l. 60 - c. 5, l. 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpolate new frames as taught by Cornog to remove unwanted visible artifacts such as jerky motion.

[claim 5]

In regard to claim 5, note that Cornog discloses the use of motion vectors for interpolating new frames (e.g. c. 6, ll. 17-42).

[claim 10]

In regard to claim 10, Mizuno discloses retiming a sequence of video by repeating "manipulation frames" when appropriate (Figure 7). However Cornog discloses that that simply repeating frames can produce "unwanted visible artifacts such as jerky motion" (c. 1, ll. 7-27) and proposes a solution of using motion compensated interpolation to produce new frames which do not suffer from this problem (c. 4, l. 60 - c. 5, l. 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpolate new frames as taught by Cornog to remove unwanted visible artifacts such as jerky motion.

Allowable Subject Matter

6. Claims 11-19 are allowed.

[claims 11-19]

In regard to claims 11-19, the prior art does not teach or fairly suggest a method which retimes frames based on whether an undesirable camera motion rate exceeds at least one guideline.

7. Claim 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[claim 9]

In regard to claims 9, the prior art does not teach or fairly suggest a method which retimes frames based on whether an undesirable camera motion rate exceeds at least one guideline.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is considered relevant to retiming video frames to remove the effects of undesirable camera motion:

i.	Cok	US 2003/0016750 A1
ii.	Sharma et al.	US 6,192,079

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
10/14/2004

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